Introduction:
During the Vedic period itself the existence of Karna roga and its treatment were available. In Samhita period, Acharya Susruta has mentioned 28 karna rogas & its treatment in detail. Out of them, Karnakandu is one of the most common diseases affecting the ear.

The signs & symptoms of Karnakandu such as pain, discharge, itching etc. can be correlated to otomycosis. Otomycosis is a fungal infection of the ear canal often due to Candida and Aspergillus. It is seen in hot & humid climate of tropical and Subtropical countries.

Secondary fungal growth is also seen in patients using topical antibiotics for treatment of otitis externa or middle ear Suppuration. So, the disease was selected for present study.

Among the various qualities of a ideal drug -readily availablity and cheaper are two important qualities present with the drug Arka taila having ingredients Arka swarasas, Sarsapa taila and Haridra churna.

Arka taila (Sa. Ma. 9/144) is indicated for itching, Vicarcika, Pama, kacchu etc. which are due to fungal infection of skin. Otomycosis is also a condition due to fungal infection. Since all ingredients are easily available in their authentic form and have disinfectant and antiseptic properties and Vatakaphaghna, kusthaghna, kandughna, visaghna, vranaśodhana, vranaropana, effects. So, Arka taila is selected for present study as trial drug.

Aims & objects:
1. To study the etiological factors of Otomycosis (Karnakandu) in Ayurvedic and modern view.
2. To assess the efficacy of Arka-taila in the management of Karnakandu (Otomycosis).

Materials & methods:
The whole material is divided into following:-
1. Conceptual material: Different Ayurvedic and modern texts, journals, research papers were referred for this part of study.
2. Clinical material: In this part a detailed clinical study has been carried out from both Ayurvedic & modern point of view.

Inclusion Criteria:
The selection of patients was done on the basis of signs & symptoms of Karnakandu - otomycosis described as per Ayurvedic and modern medical science.

Exclusion Criteria:
Patients suffering from any debilitating diseases like diabetes, T.B. etc. and with other aural pathology e.g. CSOM, ASOM, Perforation of tympanic membrane etc. were excluded from the study.

30 patients were given Arka Taila as Karnapurana irrespective of age, sex, & religion.

30 patients were given Arka Taila as Karnapurana irrespective of age, sex, & religion.

Dose: 4 - 8 drops / karnapurana, in luke warm condition.

Duration: 100 matra for 15 days.

Frequency: Twice or thrice daily.

Discussion:
The disease Karnakandu (Otomycosis) is a fungal infection of external oridnary canal. Itching, Pain, blocking sensation, otorrhoea are the chief symptoms of this disease. Though it is simple disease if not treated properly can perforate the tympanic membrane. Once the tympanic membrane got perforared due to a little exposure to cold or water entry into the ear canal. Patients use to suffer frequently with karnasrava, Pratisyaya etc. It also hampers the hearing mechanism.

The disease Karnakandu (Otomycosis) occure due to several Nija nidana such as Avasyaya, Pratisyaya etc. Due to these etiological factor vitiation of dosas occure when they get accumulated (sthanasamsraya) in the ear, and causes twak, rakta, mamsa dhatu dusti which leads to karnakandu. Due to seraval Agantuja karana such as karnakandu by unsterile instrument, mithiyayoha of sastra karma, if polluted water enters in to the ear canal (Nimajjate jale) may cause fungal infection in the ear canal.

Total effect of the treatment was assessed on the basis of clinical assessment of signs and symptoms and statistical analysis in both the groups and then conclusion and results were drawn.

Results & Conclusion
1. Prevalence of Karnakandu (Otomycosis) is found to be more in 21-40 years age group.
2. Percentage of Karnakandu (Otomycosis) is same irrespective of sex.
3. It is seen that Otomycosis has no religion wise distribution.
4. Otomycosis has no relation with particular occupation but among female patients, housewives are more prone.
5. Vata kapha Prakrti people are more prone for this disease.
6. Study shows middle class and lower middle class people are mostly affected with these disease.
7. It usually affects one ear but both ears can also be affected.
8. Genetic factor has no role with this disease.
9. Maximum number of patients attending the O.P.D. were having Madhyama category of Sara, Samhanana, Satva, Satmya, AhāraSakti, Vyayama Sakti, Vaya.
10. There is no relation between sleeping pattern and the disease Karnakandu (Otomycosis).
11. Maximum patients consult the doctor within one week of onset of disease due to its acute manifestation with severe pain.
12. Pravrut rutu (June-July) and varsha rutu (Aug-Sep) are favorable season for Karnakandu (Otomycosis).
13. Hot & Humid atmosphere, water entry in the ear, scratching of the ear by unsterile instrument such as, Matchstick, hair pin, key & finger nail etc are the main causes for invading fungus.
14. Aspergillus and Candida are the chief opportunistic fungus causing this disease Otomycosis.
15. Otomycosis due to Candida albicans may be compared with Vata Kapha predominant condition. & that of Aspergillus may be compared with Tridoshas condition of the disease Karnakandu (Otomycosis).
16. During the treatment period pathya-apathya should be followed specially head bath should be prohibited.
17. Sufficient amount of arkataila should be put (Karnapurana) to get expected result.
18. Regular cleaning of ear canal in an interval of 2-3 days till the prohibition of fresh fungal growth is an essential factor for quick relief of the disease.
19. The drug Arkataila is effective to treat the disease Karnakandu (Otomycosis). Arkataila can be applied safely without any precaution even if tympanic membrane is perforated.
20. Arkataila Karna Purana for duration of 15 days is sufficient for the treatment of the disease Karnakandu (Otomycosis), provided proper Pathyā-apathya should followed.

REFERENCES:
8. Disease of Ear Nose & Throat by P. L. Dhingra, 3rd Editions.
11. Salakya Tantra - Dr. Ramananath Dwivedi.
12. Susruta Samhita - Uttara Tantra, Hindi Commentary Ayurveda Tatva Sandipika - by Dr. Ambika Dutt Shashtry.
13. Effect of arka tailed in the management of karnasrāva w.s.r. to otomycosis by Dr.Anupama Patra 2007.

Advanced glycation end products (AGEs) are products of non-enzymatic glycation and oxidation of proteins and lipids which accumulate in the body in a wide variety of environments. AGEs may be generated rapidly or over long-times stimulated by variety of distinct triggering mechanisms, thereby accounting for their potential roles across multiple settings and pathologies. The mechanisms for such physiopathologic placement of AGEs are diverse; nonetheless, a critical property of AGEs is their ability to activate the Rage (receptor for advanced glycation end products), which is a signal transduction receptor of the immunoglobulin super-family.

The accumulation of AGEs is a natural process that increases slowly with aging; however, as mentioned earlier, abnormal accumulation of AGEs can be induced by many disease states, dietary habits, and other factors.

Maillard reaction is the most common pathway involved in production of AGEs; nonetheless, AGEs are also present preformed in high amounts in high-temperature processed foods, consumption of which would significantly add to the systemic toxic pool of these powerful pro-oxidants-AGEs-even in “normal” individuals. These glycation products-AGEs-thus rapidly accumulate in the body, then through in the brain as well, and turn on the mechanisms affecting the physiologic milieu.

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